

# Running Buffalo Clover

*Trifolium stoloniferum*

## Guidelines for Landowners Using Conservation Practices

### Missouri Department of Conservation

Common name ▪ Running Buffalo Clover

Scientific name ▪ *Trifolium stoloniferum*

State status ▪ Endangered

Federal status ▪ Endangered

#### Ecology

Running buffalo clover was historically widespread from Kansas to West Virginia. In Missouri, running buffalo clover has recently been found in three natural sites and has been reintroduced at a number of sites. It was historically found in scattered locations just north of the Missouri River and in parts of southern Missouri. The plant favors moist, open woodlands, savannas, and stream banks. It grows in areas that have a pattern of long-term moderate disturbance such as mowing, trampling, or grazing. It is often found growing in regions with underlying calcareous bedrock or limestone. Running buffalo clover blooms from mid-May to June and is believed to be self-pollinating. Scarification from the digestive system of grazing herbivores aids germination and seed dispersal.

#### Reasons for Decline

Running buffalo clover may have depended on bison to maintain its moderately disturbed habitat, as well as to scarify and disperse seeds. As bison were eliminated, so were suitable habitats and a means of seed dispersal. Other historical causes of decline may include habitat destruction, increased competition from exotic plants, and reduced fire frequency resulting in loss of open woodlands. Running buffalo clover is currently threatened by habitat loss, population isolation, and competition from non-native plants. Plant diseases may also be affecting clover populations.

#### Recommendations

Project activity in the vicinity of known running buffalo clover sites should be consistent with the maintenance of open woodland habitat. A survey of the project area should be conducted in May or June by a trained biologist in order to identify occurring populations of this species.

Moderate disturbances such as prescribed fire, mowing regimes, and grazing should be allowed to continue in order to maintain suitable habitat. Areas adjacent to existing running buffalo clover sites should be managed in such a way as to prevent the introduction of non-native species or possible degradation of the native plant community.

Consider the balance between adverse and beneficial practices when determining the overall effect of a conservation practice.



Photo Credit: Missouri Department of Conservation

#### Beneficial Practices

- Use prescribed fire to remove accumulated plant material and to set back woody vegetation and restore suitable open woodland and savanna habitat.
- Controlling invasive plants in areas where this species occurs. To minimize harm to this species use a selective herbicide, a spot application, or well timed application with a nonselective herbicide when this plant is dormant.
- Selective harvest of timber is acceptable if clover plants are protected from physical destruction and a partial tree canopy is maintained.
- Do not mow or otherwise disrupt plants during the flowering and fruiting period (April through August). However, mowing is important to control surrounding vegetation.

- Graze livestock in a manner that promotes running buffalo clover but does not promote invasive plants, nor degrade or destroy the plant community.

#### **Adverse Practices**

- Heavy foot traffic, vehicle traffic, or use of heavy machinery in areas with running buffalo clover populations.
- Degradation or destruction of moist open woodlands, savanna and stream banks where running buffalo clover occurs.
- Establishing invasive vegetation, such as tall fescue, sericea lespedeza, Bermuda grass or Caucasian bluestem on sites or nearby where it could spread into the native plant community, and thus degrade or destroy habitat for this species.
- Mow, hay, burn or graze running buffalo clover populations during the April through August growth period.
- Allowing continuous, heavy grazing or grazing during flowering and fruiting periods (April-August).
- Conducting earthmoving practices or causing erosion that destroys or degrades communities with running buffalo clover populations.
- Applying a nonselective or broadleaf herbicide in areas where this species is located and actively growing.
- Unmanaged application of pesticides, animal waste or fertilizers that destroys or degrades glades and dry, rocky pastures that support populations of this species.

#### **Legal**

The Missouri Department of Conservation prepared these guidelines for conservation practices with assistance from other state agencies, contractors, and others to provide guidance to those people who wish to voluntarily act to protect wildlife and habitat.

Compliance with these management guidelines is not required by the Missouri wildlife and forestry law or by any regulation of the Missouri Conservation Commission. Other federal, state or local laws may affect construction practices.

“State Endangered Status” is determined by the Missouri Conservation Commission under constitutional authority, and specific requirements for impacts to such species are expressed in the Missouri Wildlife Code, rule 3 CSR 10-4.111.

Species listed under the Federal Endangered Species Act must be considered in projects receiving federal funds or requiring permits under the Clean Water Act, with compliance issues resolved in consultation with the U.S. Fish and Wildlife Service.

#### **Information Contacts**

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<http://www.fws.gov/midwest/partners/missouri.html>